Title: 27419, A NOVEL HUMAN ARGININE-N-METHYL TRANSFERASE AND USES THEREOF Inventor: Rachel A. MEYERS Application No.: To be Assigned Docket No.: 381552003900

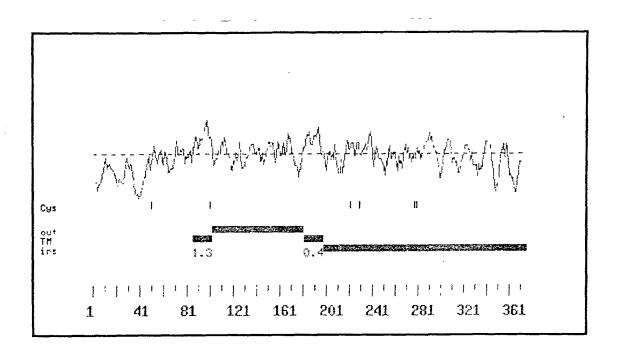
Sheet 1 of 5

ATTGAATTTAGCGGCCGC	GAATTCGCCCTI	M S	G CAG CCC A	K K R K I AG AAA AGA AAG CI		SEQ ID NO:2 SEQ ID NO:1
G G G E GGG GGC GGC GA			E E E	D G A E GAT GGC GCG GAG	R E A CGG GAG GCG	31 93
A L E R P GCC CTG GAG CGA CC			E R D GAA CGG GAC	Q L Y Y CAG CTG TAC TAC	E C Y GAG TGC TAC	51 153
S D V S V TCG GAC GTT TCG GT			A D R GCG GAC CGC	V R T D GTC CGC ACC GAT	A Y R GCC TAC CGC	71 213
L G I L R CTG GGT ATC CTT CG			R G K CGA GGC AAG	T V L D ACG GTA CTG GAC	V G A GTG GGC GCG	91 273
G T G I L	S I F		Q A G	A R R V	Y A V	111
GGC ACC GGC ATT CT	G AGC ATC TT		CAG GCC GGG	GCC CGG CGC GTG	TAC GCG GTA	333
E A S A I	W Q Q		E V V	R F N G	L E D	131
GAG GCC AGC GCC ATC	C TGG CAA CA		GAG GTG GTG	CGG TTC AAC GGG	CTG GAG GAC	393
R V H V L	P G P		T V E	L P E Q	V D A	151
CGG GTG CAC GTC CTC	G CCG GGA CC		ACT GTA GAG	TTG CCG GAA CAG	GTG GAT GCC	453
I V S E W	M G Y	_	L H E	S M L S	S V L	171
ATC GTG AGC GAG TGG	G ATG GGC TA		CTG CAC GAG	TCC ATG CTG AGC	TCC GTC CTC	513
H A R T K CAC GCG CGA ACC AA	W L K G TGG CTG AA		G L L GGT CTT CTC	L P A S CTG CCG GCC TCC	A E L GCC GAG CTC	191 573
F I A P I TTC ATA GCC CCC ATC	S D Q	M L	E W R	L G F W	S Q V	211
	C AGC GAC CA	G ATG CTG G	GAA TGG CGC	CTG GGC TTC TGG	AGC CAG GTG	633
K Q H Y G	V D M		L E G	F A T R	C L M	231
AAG CAG CAC TAT GG	F GTG GAC AT		CTG GAG GGC	TTC GCC ACG CGC	IGT CTC ATG	693
G H S E I	V V Q	G L	S G E	D V L A	R P Q	251
GGC CAC TCG GAG ATC	GTT GTG CA	G GGA TTG T	ICC GGC GAG	GAC GTG CTG GCC	CGG CCG CAG	753
R F A Q L	E L S	R A	G L E	Q E L E	A G V	271
CGC TTT GCT CAG CTA	A GAG CTC TC	C CGC GCC G	GGC TTG GAG	CAG GAG CTG GAG	GCC GGA GTG	813
G G R F R	C S C	Y G	S A P	M H G F	A I W	291
GGC GGG CGC TTC CGC	TGC AGC TG	C TAT GGC T	ICG GCG CCC	ATG CAT GGC TTT	GCC ATC TGG	873
F Q V T F	P G G		E K P	L V L S	T S P	311
TTC CAG GTG ACC TTC	C CCT GGA GG		GAG AAA CCC	CTG GTG CTG TCC	ACC TCG CCT	933
F H P A T TTT CAC CCG GCC AC	H W K I CAC TGG AA		L L Y CTC CTC TAC	L N E P CTG AAC GAG CÇG	V Q V GTG CAA GTG	331 993
E Q D T D	V S G	E I	T L L	P S R D	N P R	351
GAG CAA GAC ACG GAG	C GTT TCA GG	A GAG ATC A	ACG CTG CTG	CCC TCC CGG GAC	AAC CCC CGT	1053
R L R V L	L R Y		G D Q	E E K T	K D F	371
CGC CTG CGC GTG CTC	G CTG CGC TA		GGA GAC CAG	GAG GAG AAG ACC	AAA GAC TTT	1113
A M E D * GCC ATG GAG GAC TG:						376 1128
GCGTTGCCAAGGG CG AAT	rcgtttaaacct	GCAGGACTAG				

Title: 27419, A NOVEL HUMAN ARGININE-N-METHYL TRANSFERASE

AND USES THEREOF Inventor: Rachel A. MEYERS Application No.: To be Assigned Docket No.: 381552003900

Sheet 2 of 5



Title: 27419, A NOVEL HUMAN ARGININE-N-METHYL TRANSFERASE

AND USES THEREOF Inventor: Rachel A. MEYERS Application No.: To be Assigned Docket No.: 381552003900

Sheet 3 of 5

į

		*->iptsydiiGDivilnipdElrpyrkvIgEailkktkkNEMAVvKtVl	SEQ	ID :	NO:4	
27419	19	+ +++++ + Ea+l++ ++ EGTEEEDGAEREAALERPRR	38			
		<pre>rkggeeDFEGLLGEGYGitGeyRtrrlelLAGekdSGEtvTihkEnGc.r + +r++ L+ e +S v +h E + +r</pre>				
27419	39	TKRERDQLYYECYSDVSVHEEMIAdR	64			
		<pre>fklDvsKVYfSprLegEReRlaklvkeGEvVvDmFAGiGPFsIpiAkh + D+ rL</pre>				
27419	65	VRTDAYRLGILRnwAALRGKTVLDVGAGTGILSIFCAQ-	102			
		sKakrVyAvdlNPeavkYLkeNIkLNKvedqpKIQTVVNkIipIlgDv + a+rVyAv+ ++ +++++e ++ N +ed ++ + g v				
27419	103	AGARRVYAVEASAIWqqAREVVRFNGLEDRVHVLPGPV	140			
		<pre>revipekeagvhslvklvvaDRviMplplarvgqisahefldkalrk ++v++</pre>				
27419	141	ETVELPEQVDAIVsewMGYGLLHESMLSSVLHARTKW	177			
		<pre>vkdggilvsviHYyeflpekaipflpverikraaekeGvkveilkkrkvk +k+gg</pre>				
27419	178	LKEGGDQMLEWRLG	206			
		nYaPgvyhvvlDarvn<-* + + h+++D +				
27419	207	FWSQVKQHYGVDMSCL 222				
		•				

FIG. 3

```
186 PASAELFIAPISD-QMLEWRLGFWSQVKQHYGVDMSCLEGFATRCLMGHSEIVVQGLSGE 244
            P L + I D Q + ++ FW V YG +MSC++ A + + +
Query:
          1 PDKCTLHLTAIEDTQYKDEKINFWDDV---YGFBMSCMKDAAIKEPIVDPKYN-HVVDPN 56 SEQ ID NO:5
Sbjct:
        245 DVLARPQRFAQLELSRAGLEQELEAGVGGRFRCSCYGSAPMHGFAIWFQVTF-----PG 298
             ++ P + ++ + +LE F+ + +H F WF V F P
Query:
         57 QIITDPCTIKEFDMHTVKIS-DLETFTSP-FKLTVKRNGMLHAFTAWFDVYFTSKRCHPI 114
Sbjct:
        299 GES-EKPLVLSTSPFHPATHWKQALLYLNEPVQVEQDTDVSGEITLLPSRDNPRRLRVLL 357
             E+ +KP+ ST P P THWKQ + Y+ +P+ V+ + G IT+ ++ N R L + L
Query:
        115 PEAIDKPVGFSTGPQSPYTHWKQTIFYMEDPLPVKTGDTIEGSITISKNKKNNRDLDITL 174
Sbjct:
         358 RYKVGDQEEKT 368
Query:
             + V +++ T
         175 SWNVNGRQDPT 185
Sbjct:
```

Inventor: Rachel A. MEYERS Application No.: To be Assigned Docket No.: 381552003900

AND USES THEREOF

Sheet 4 of 5

57 HEEMIADRVRTDAYRLGILRNWAALRGKTVLDVGAGTGILSIFCAQAGARRVYAVEAS-A 115 Query:

H MID R +A+ L + R V D+G+GTGILS A+ V A+E +

Title: 27419, A NOVEL HUMAN ARGININE-N-METHYL TRANSFERASE

142 HIRMINDVKRNEAFAKA-LNDTIKSRITVVFDIGSGTGILSAIAARK-TNLVTALEENMC 199 SEQ ID NO:6 Sbjct:

116 IWQQAREVVRFNGLEDRVHVLPGPVETVELPEOVDAIVSEWMGYGLLHESMLSSVLHART 175 Query:

200 LTMISKEVLKRNGVESRVNVHAKNSTYFETCEKADIVVSETLDCCVFGEKIVETFLDAHV 259

Query: 176 KWLKEGGLLLP 186

Sbjct:

++ + + +P

Sbjct: 260 RFSHDRTIFIP 270

FIG. 5

40 KRERDQLYYECYSDVSVHEEMIADRVRTDAYRLGILRN 77 Query:

> K + D Y++ Y+ +HEEM+ D VRT++YR I N

Sbjct: 10 KTDEDYYYFDSYAHYGIHEEMLKDSVRTESYRDFIYHN 47 SEO ID NO:7

FIG. 6

Query: 43 RDQLYYECYSDVSVHEEMIADRVRTDAYRLGILRNWAAL 81

+D+ Y+ Y + +H EM+AD+ RT Y IL+N +L

14 QDEEYFGSYGTLKLHLEMLADQPRTTKYHSVILQNKESL 52 SEQ ID NO:8 Sbjct:

FIG. 7

Title: 27419, A NOVEL HUMAN ARGININE-N-METHYL TRANSFERASE

AND USES THEREOF Inventor: Rachel A. MEYERS Application No.: To be Assigned Docket No.: 381552003900

Sheet 5 of 5

Query: 75 LRNWAALRGKTVLDVGAGTGILSIFCAQAGARRVYAVEASAIWQQAR-EVVRFNGLEDRV 133 LR AA+R + LDV G G ++ +S+ W + +V + +G++ +V Sbjct: 190 LRRQAAIRTDS-LDV-QGLGSREDLLSEVSGPSCPLTRSSSFWGGSSIQVQQRSGIQSKV 247 SEQ ID NO:9 Query: 134 HVLPGPVETVELPEQVDAIVSEWMGYGLLHESMLSSVLHARTKWLKEGGLLLPASAELFI 193 + + LP + W E+ S L W+ G LLP+S E + 248 S-----KHIRLPAPCPGLEPSWAKDP--PETRSSLELDTELSWIS--GDLLPSSQEEPL 297 Sbjct: 194 AP-----ISDQMLEWRLGFWSQVKQHYGVDMSCLE-GFATRCLMGHSEIVVQGLSGE 244 Query: P + Q R GFW ++ + + + + SCL+ G R S + Q L G Sbjct: 298 FPRDLKKCYSVETQSCRRRPGFWLDEQRRHSIAVSCLDSGSQPRLCPSPSSLGGQPLGGP 357 245 DVLARPQRFAQLELSRAGLEQELEAGVGGRFRCS 278 Query: +RP++ +LS + + G R CS Sbjct: 358 G--SRPKK----KLSPPSISIDPPESQGSRPPCS 385

FIG. 8